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BONNYVILLE

PLANNING REPORT

1972



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Provincial Planning Branch
Dept. of Municipal Affairs
Alberta

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Project Planner - Wayne Jackson

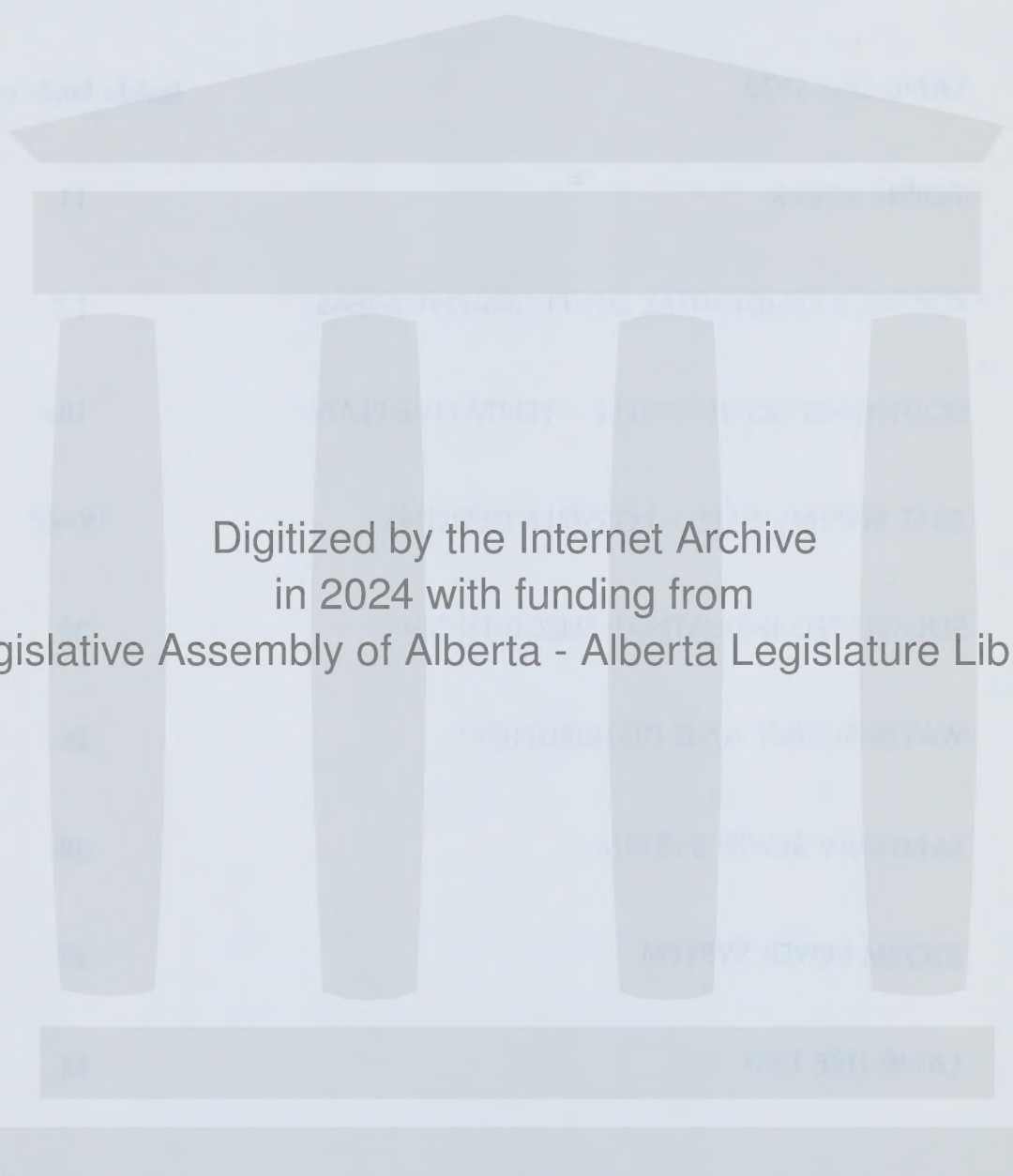
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A. THE PURPOSE OF THE PLANNING REPORT

The Provincial Planning Branch has undertaken this planning study at the request of the Town of Bonnyville. The study treats a variety of planning matters with special emphasis on land use. It is aimed towards (1) ensuring that adequate and suitably located land is available for future growth and needs; (2) preventing the mixture of incompatible land uses; and (3) providing a basis for a sound land use policy.

The planning study consists of two stages.

STAGE 1 A preliminary report is prepared and presented to Council. After presenting some basic facts about the town, including a population projection, the preliminary report looks at the major land use categories attempting to isolate future needs and specific problems. It makes recommendations concerning possible courses of action by council.

STAGE 2 Council meets one or more times with the Provincial Planning Branch to review the preliminary report. An attempt is made to discover the strengths and weaknesses of the report, to agree or disagree with the various recommendations, to suggest alternatives, to point out areas and problems which have been overlooked. During this review phase council is encouraged to seek inputs from the community at large. Once the review is completed the Provincial Planning Branch will prepare a definite plan, outlining Council's policy and implementation procedures, including a zoning by-law.

The planning study is basically concerned with the period 1971-1981. In an area which can be so easily affected by changes of an external source, eg. world agricultural trends, and where change as a result of local occurrences is normally relatively slow, it would be pointless to attempt to go beyond this period.

B. BONNYVILLE - REGIONAL IMPORTANCE

The Town of Bonnyville is located on Highway 28, some 150 miles northeast of Edmonton. The area was first surveyed for homesteads in 1902 and many of the early settlers were French Canadians, while others were of British and Scandinavian origin. The railroad reached Bonnyville in 1927. In 1929 the settlement was incorporated as a village, and in 1948 as a town. Bonnyville's population has grown from 360 in 1931 to 1175 in 1951 and to 2587 in 1971.

The area around Bonnyville is one of mixed farming with the major products being beef, dairy goods, and cereal crops. Bonnyville's main function is that of retail and service centre for the surrounding area. The following table compares Bonnyville to a number of competing towns in terms of this function.

	Population 1971	Licensed Trading Establishments, 1970				Total Businesses 1971
		Total	Retail	Service	Other	
Bonnyville	2587	74	40	22	12	129
St. Paul	4161	81	46	25	2	200
Cold Lake	1309	24	17	6	1	37
Grand Centre	2088	47	32	10	5	114
Vermilion	2915	75	37	23	15	139

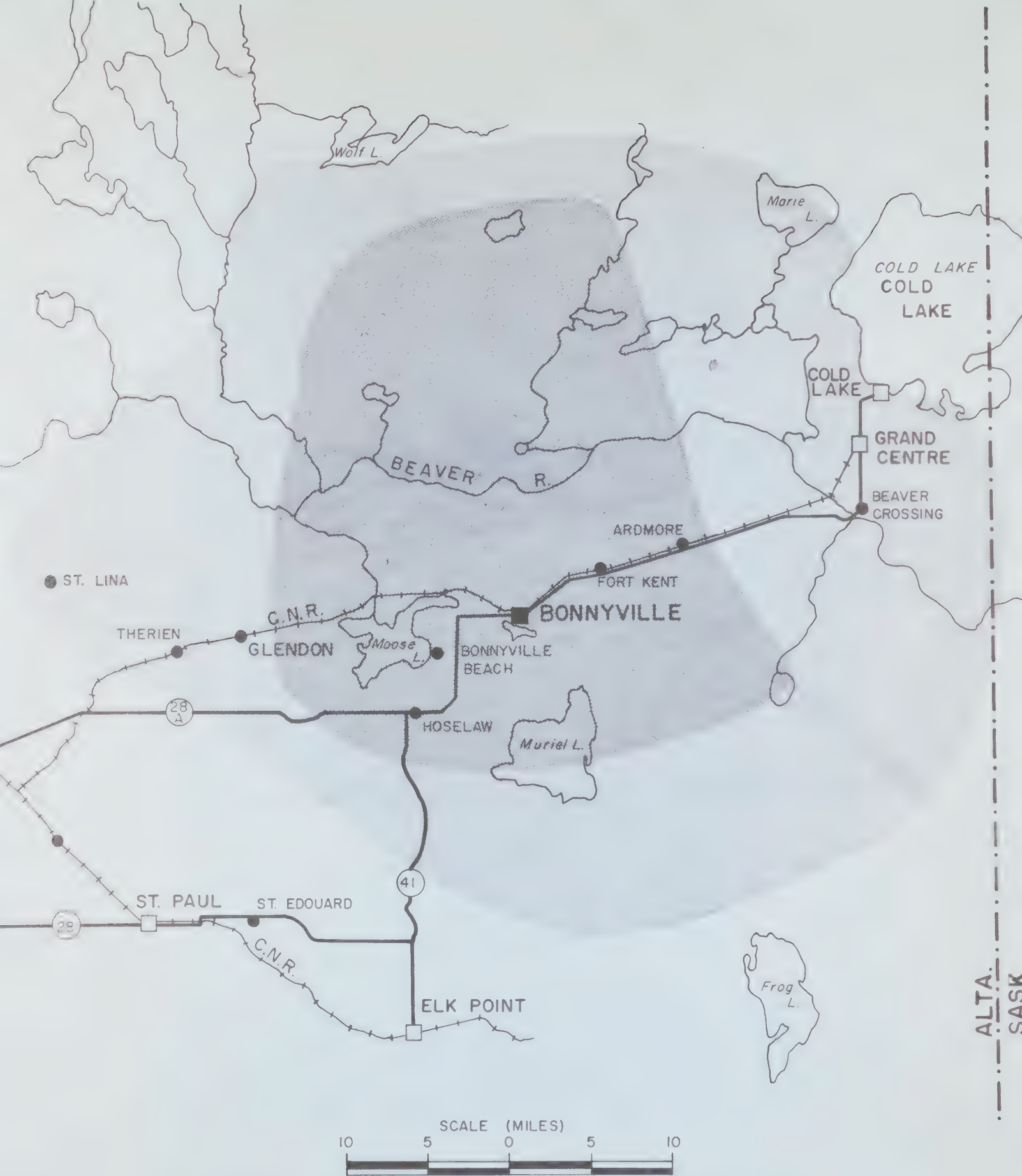
The licensed businesses in Bonnyville employed a total of 218 persons in 1970. Apart from the general retail and service trade a number of these establishments are involved in the sale of hunting and fishing equipment, a response to the activity in the nearby lakes and wooded areas. The remainder of businesses include a wide variety of professional, government and community services.

A 1972 survey of the Bonnyville labour force by the Provincial Planning Branch showed that 43.8% worked for the government, including education, health and welfare, 31.0% were in retail and service employment, and 25.2% were in manufacturing-storage type work. The latter category increased in importance during the 1960's while the other two dropped slightly.

The extent of Bonnyville's trading area is shown on Map 1. It was determined by sending a questionnaire to the merchants, service people, professionals and civic organizations of the town. Most of the people living in the primary trading area are largely dependent on Bonnyville for the goods and services which it does provide. In 1966 this area contained 3,719 people in addition to the population of the town. The secondary trading area may also be called the "zone of indifference". Here the people are, at times, attracted to Bonnyville, but may travel to competing centres such as Grand Centre or St. Paul just as often. In 1966 this area had a population of 13,593, including 3,020 in Cold Lake and Grand Centre and about 6,300 persons at the Cold Lake Canadian Forces Base.

The military base is no doubt a great boost to the economy of the region, though how much it contributes to the economy of Bonnyville has not been determined. It appears however that it is a much more critical factor in Cold Lake and Grand Centre than in Bonnyville. In terms of residents, 535 military personnel and their dependents live in Grand Centre, 194 in Cold Lake, and 39 in Bonnyville (1972; pers. comp. CFB Cold Lake).

There has apparently been little change in the physical size of the trading area over the last ten years. Both St. Paul and Grand Centre are growing relatively rapidly and thus Bonnyville is no doubt in danger of losing some trade to these towns. Conversely, if Bonnyville was able to increase the variety of commercial establishments in the town it would likely attract a greater number of people from the secondary trading area.



BONNYVILLE - REGIONAL IMPORTANCE (SUMMER, 1971)

- PRIMARY TRADING AREA
- SECONDARY TRADING AREA

C. POPULATION TRENDS

The population of Bonnyville was 2,587 in 1971. This is more than double the 1951 figure.¹ Although the population growth has been somewhat erratic, the town has shown an ability to maintain a healthy growth rate for the town of its size range.

<u>Bonnyville</u>	<u>1951</u>	<u>1956</u>	<u>1961</u>	<u>1966</u>	<u>1971</u>
Population	1139	1495	1736	2237	2587

The changing age structure of the population is a noticeable feature. Bonnyville has a high proportion of older people, and the proportion is getting larger, at the expense of the under 15 age group.

<u>Population Percentage</u>	<u>Bonnyville</u>			<u>Alberta 1966</u>
	<u>1961</u>	<u>1966</u>	<u>1971</u>	<u>Towns 2500 to 5000 population</u>
under 15 yrs. of age	36.3	36.2	30.0	33.5
15 to 65 yrs. of age	51.8	50.0	52.8	56.6
over 65 yrs. of age	11.9	13.8	17.2	9.9

Older people then, make up a substantial portion of the population increase.

1961 - 1971

Population Change	+723
Change in 0-14 age group	+140
Change in over 65 age group	+236

This is not to imply that such is detrimental to the town. And it should be pointed out that Bonnyville has a lower average age than many other towns of its size. But it must be remembered that older people are often living on fixed incomes, may circulate a limited amount of money, and most important may require different types of services than the majority of the population.

¹ Several annexations have taken place during this period, though it is estimated that in total the areas annexed did not include more than 100 persons.

Population projections are important elements in the planning of future urban growth and requirements. Planning should take place for an increase or decrease in population. A note of precaution is however necessary. The reliability of population projections is always questionable and uncertain. They must assume that no dramatic change in the economic and social conditions of the area, often a risky assumption, will take place during the planning period. For these reasons projections must only be used as a guide, and an effort should be made to plan for a specific population rather than for a year.

A relatively simple method is used to project Bonnyville's population; that is the approach used by the Provincial Planning Branch in "Population Trends" (1967). Although this method has somewhat "overprojected" in the past, the Bonnyville projection can be considered

Population Projection	
1976	2927
1981	3295

"medium" in nature since the method relies heavily on the most recent five year trend and in Bonnyville's case this period was one of unusually little population increase. It is expected that the projection will be accurate to within five percent. More sophisticated methods were not considered necessary for a town such as Bonnyville, and would have proven difficult due to the lack of fertility, mortality and migration data.

In 1966 the Bonnyville primary trading area, excluding the town, had a population of about 3700.¹ The same area had over 4800 people in 1951. While the region lost 1100 people then the town gained about the same number, though there is no reason to believe that all of the rural migrants concerned moved to Bonnyville. This rural depopulation trend will likely continue, though possibly at a lesser rate, for some time. There is little farm land opening up in the area; there are decreasing manpower needs on the farm, and there is a trend towards fewer and larger farms. Furthermore, the possibility of future resource development contributing to a substantial population increase is extremely limited.

1

1971 figures not available

THE POPULATION OF BONNYVILLE, THEN, SHOULD
CONTINUE TO GROW, THOUGH POSSIBLY RATHER SLOWLY

The town will continue to be the major service center for the surrounding area. Bonnyville's ability to maintain or improve its position relative to the competing centres will depend on the town's ability to attract new business establishments and industries, large or small, thus creating permanent jobs to keep the younger people employed; and to provide the environment which the trading area population desires.

D. SOME GENERAL LAND USE CHARACTERISTICS IN BONNYVILLE

The use of each parcel of land in Bonnyville is shown on Map 2 found in the inside back cover. The actual amount and proportion of land under the various uses is shown in the following table:

LAND USE BONNYVILLE 1971

	<u>Acres</u>	<u>% of Developed Area</u>
Residential	100.0	26.9
Commercial-Industrial	88.0	23.6
Parks and Recreation	30.9	8.3
Public	29.4	7.9
Educational	28.3	7.6
Roads, Streets and Lanes	<u>95.6</u>	<u>25.7</u>
Total Developed Area	372.2	100.0
Total Area of Town	951.6	
Agricultural, Vacant, and Airstrip	568.9	

The influence of the grid pattern is evident from the land use map. Only in rare cases, and mainly along the lakefront, has the street pattern varied.

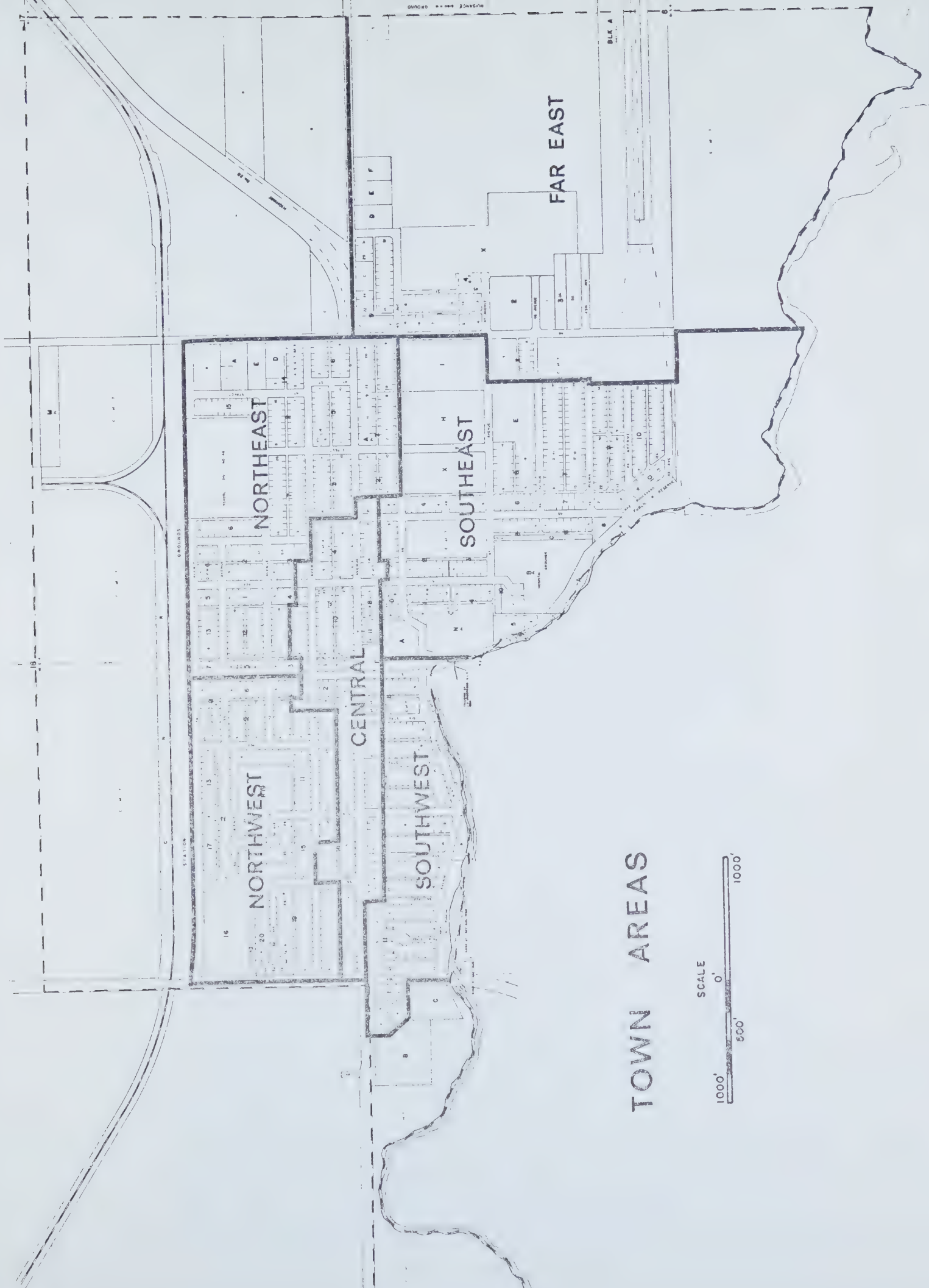
The most outstanding feature of the land use pattern is the amount of agricultural and undeveloped land (61%) within the town boundaries. Other notable features include the concentration of commercial activities along the main street (Highway 28); the dedication of most of the lakeshore as public reserve, the relatively high proportion of commercial-industrial land, and a relatively low proportion of land devoted to parks and recreation (15% is the approximate average figure for Alberta towns of similar size and function - see T. Dykstra, *An Urban Land Use Analysis of Selected Alberta Communities*, Provincial Planning Branch, 1971).

Land use in Bonnyville is controlled by the 1967 zoning by-law. There have been a number of changes in the town since this by-law was prepared, including the subdivision of several large parcels, and although numerous amendments have been made

ONE RESULT OF THIS REPORT SHOULD BE THE
PREPARATION OF A NEW ZONING BY-LAW
TAKING RECENT CHANGES AND TRENDS
INTO ACCOUNT

In the period since 1967 there have been changes in The Planning Act which invalidate certain aspects of the Bonnyville by-law, namely those relating to Councils responsibilities, the authority of the Development Officer, and the classes of uses.

For descriptive convenience the town has been divided into six areas and these are outlined on Map 3.



TOWN AREAS



II. RESIDENTIAL LAND USE AND HOUSING

A. WHAT ARE THE HOUSING CHARACTERISTICS?

Bonnyville has a total of 731 dwellings units,¹ 535 (73%) of which are in single family dwellings. There are also 59 occupied units in two family dwellings; many of which were not originally built for that purpose. Multi-family dwellings contain from three to fifteen units and are scattered throughout the town, though there is only one "apartment building".

Residential growth has occurred mainly from the central area outwards. The areas developed most recently are in the southeast; and to a more limited degree in the northwest and southwest. In total more than 36% of the dwellings have been constructed since 1956.

The 731 dwelling units house a population of 2469; the average being 3.4 (net) persons per household.² The only part of town to differ greatly from this figure is what has been termed the "Far East" where there is an average of 5.7 persons per household.

Sixty-seven percent of the dwelling units are owner-occupied. This proportion is about normal for a town of Bonnyville's size (1966 average for Alberta towns under 5000 population 67.6%).

THE TOWN SHOULD NONETHELESS WELCOME THE CONSTRUCTION OF RENTAL ACCOMMODATION

People who want to live in Bonnyville may not be doing so because of the limited choice of housing types.

THE TOWN SHOULD PERMIT THE CONSTRUCTION OF MULTI FAMILY DWELLINGS IN MOST RESIDENTIAL AREAS

That is the "R2" Zone should include apartments and row housing as permitted uses. At the scale development is likely to take place the often associated negative effects, such as utility overloading or school crowding, will not occur.

1

A dwelling unit is a structurally separate set of living quarters with a private entrance. In this report the term refers only to a private dwelling such as a single house or apartment, and not to a collective dwelling such as a hotel or large lodging house. A residential building (or dwelling) may contain one or more dwelling units. A household consists of a person or group of persons occupying one dwelling unit.

2

The gross figure of 3.5 persons per household also takes those who live in collective dwellings into consideration. A sample of mean household sizes for towns of comparable size (1966) follows: High River 2.8, Barrhead 3.0, Olds 3.3, Whitecourt 4.0.

B. WHAT SORT OF RESIDENTIAL GROWTH CAN BE EXPECTED?

It is important to have an idea of the number of dwelling units and the amount of residential land which will likely be required during the next ten years. The projections are shown below, and the method of calculations in Appendix A.

NUMBER OF ADDITIONAL DWELLING UNITS REQUIRED

1971 - 1976	97 to 125
1976 - 1981	105 to 136

There has been no apartment construction in Bonnyville for at least the last five years. We can expect, however, that a limited amount of residential construction will be in the form of multi-family dwellings.

C. WHERE SHOULD THIS RESIDENTIAL GROWTH TAKE PLACE?

There are about 35 vacant and serviced lots within the built-up residential areas.

INFILLING OF ALL VACANT LOTS WITHIN THE BUILT-UP
AREA SHOULD BE A MAJOR RESIDENTIAL PRIORITY

The development of these lots would increase the efficiency of the utility systems. In the case of larger parcels infilling could be encouraged by replotting schemes; the Provincial Planning Branch would certainly provide advice on specific cases if requested.

All of these vacant lots could, nonetheless, only accommodate a limited portion of the town's future growth, and market factors may prevent a number of them from becoming available for some time, if at all. There are, however, several other sections of town which are in the process of being developed, or could be developed without great expenditure.

Blocks 9, 10 and 11 in the southwest are serviced, but to date construction has been proceeding at a slow rate. There is still adequate space for about 37 new dwelling units, excluding any multi-family construction.

Block 15 in the northwest is in a similar position and has space for 13 single family dwellings. Block 20 in the northwest can be developed for 24 single family dwellings. An area in the southeast section of town is currently being serviced, many lots are sold. Nineteen lots are being serviced in the first stage of the development.

AVAILABLE RESIDENTIAL LOTS

In Built-up Areas	35
Southwest	37
Northwest	37
Southeast	19
	<hr/>
	128

Total Required (1976) - 97 to 125

These serviced areas, then, should likely be able to accommodate residential development until 1976, if they are fully utilized.

THE TOWN SHOULD MAKE CERTAIN THAT THE SERVICED AREAS
ARE SUBSTANTIALLY DEVELOPED BEFORE FURTHER SUBDIVISION
IS ALLOWED TO TAKE PLACE

This would hopefully prevent unnecessary spending by the Town for major sewer and water extensions.

Residential expansion into the serviced areas will likely generate some variety of accommodation. Council has, however, been worried about the lack of land zoned for "R3" purposes, that is mainly smaller houses and move-in dwellings. The market for such a zone, however, appears to be limited.

IT WOULD BE IN THE TOWN'S BEST INTERESTS NOT TO CREATE
ANY NEW R3 AREAS BUT TO EXPAND THE LIST OF PERMITTED
AND CONDITIONAL USES IN OTHER RESIDENTIAL ZONES

This should help to prevent too definite a segregation of residential types and the possible creation of a "slum" area.

With the development of the areas shown on Map 4 as 1971-1976, an additional 25 acres will likely be required for the next five year period.

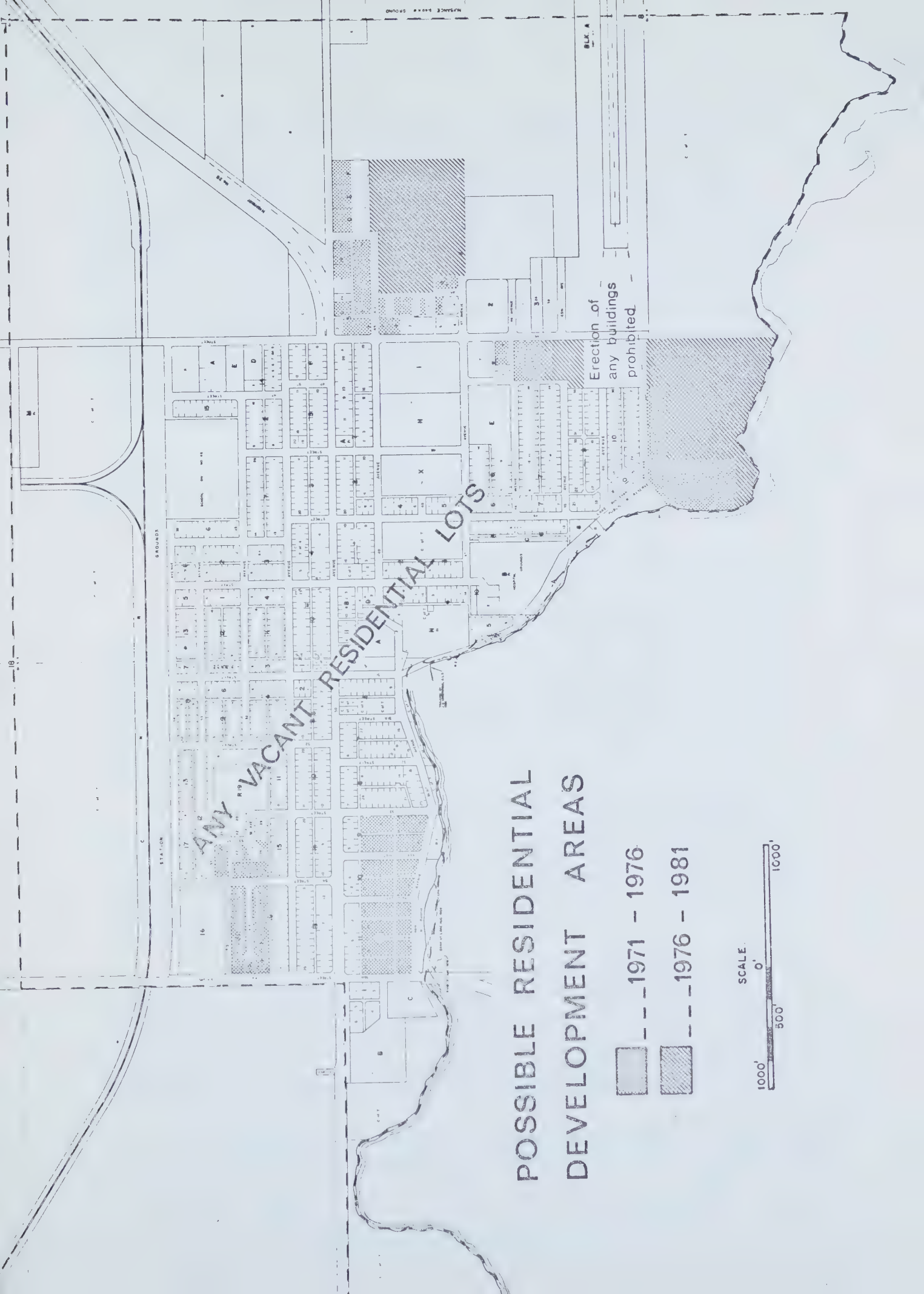
THE SOUTHEAST AND THE FAR EAST ARE THE LOGICAL
AREAS TO CONTINUE DEVELOPING

Neither of these areas present great servicing problems or expenditures, and both are in a favorable location with respect to schools. Simultaneous development of these areas should ensure the provision of a variety of residential types, this will depend on the rate of growth at that time.

One final point is worth considering with respect to residential growth. Both school systems in Bonnyville own large parcels of land which are only partially used. Parcel 1 adjacent to the public elementary school is the most notable.

SCHOOL AUTHORITIES SHOULD BE ENCOURAGED
TO RECONSIDER THE POSSIBLE USE OF THIS LAND

If certain areas (see future land use map) are not likely to be further developed in the next ten years, at the most, it would be advantageous for the Town to acquire them for residential use. Development of these areas would further maximize the efficiency of the utility systems and provide residential areas close to educational facilities.



POSSIBLE RESIDENTIAL
DEVELOPMENT AREAS

- 1971 - 1976
- 1976 - 1981



Erection of
any buildings
prohibited

D. WHAT TYPE OF LAYOUT SHOULD NEW SUBDIVISIONS FOLLOW?

In the past, Bonnyville has kept almost exclusively to a grid pattern of development. While this type of layout can easily accommodate piecemeal growth, and make servicing and finding addresses relatively simple, it has a number of disadvantages when compared to a curvilinear or creative type of design, whether a neighborhood unit or a cluster development. The grid has the largest proportion of street area of any system (anywhere from 15 to 40 per cent more is common) and the least number of lots given a standard density and housing type. The grid system often proves more expensive to service (though snow removal may be less difficult) and it does not allow for variations in topography. The other major factor to consider is safety; the grid system leaves itself open to through traffic.

On the following pages, Map 5 shows the proposed subdivision of part of the southeastern area, and Maps 6 a to 6 d illustrate four possible designs which may be suitable for outline plans for the entire far eastern area.

IT IS IMPORTANT THAT OUTLINE PLANS BE
PREPARED AND ADOPTED FOR GROWTH AREAS

The benefit of adopting an outline plan is the considerable financial saving obtained over the years of progressive phasing and planning of residential growth. The four alternative outline plans for the far eastern area have been drawn up to stimulate discussion amongst the townspeople as to which design form is most acceptable to them. In doing this one allows the town council to make the important decision as to the residential pattern the town should develop in the future.

If an outline plan is adopted it will provide for the orderly development of new residential growth. Efficiency in servicing is enhanced by the phasing of residential growth according to long range design schemes. Where towns do not follow an outline plan of some sort, it often results in a haphazard, inefficient (in terms of economic and social costs) placement of new residences, contributing to the "scattering" of overall development.

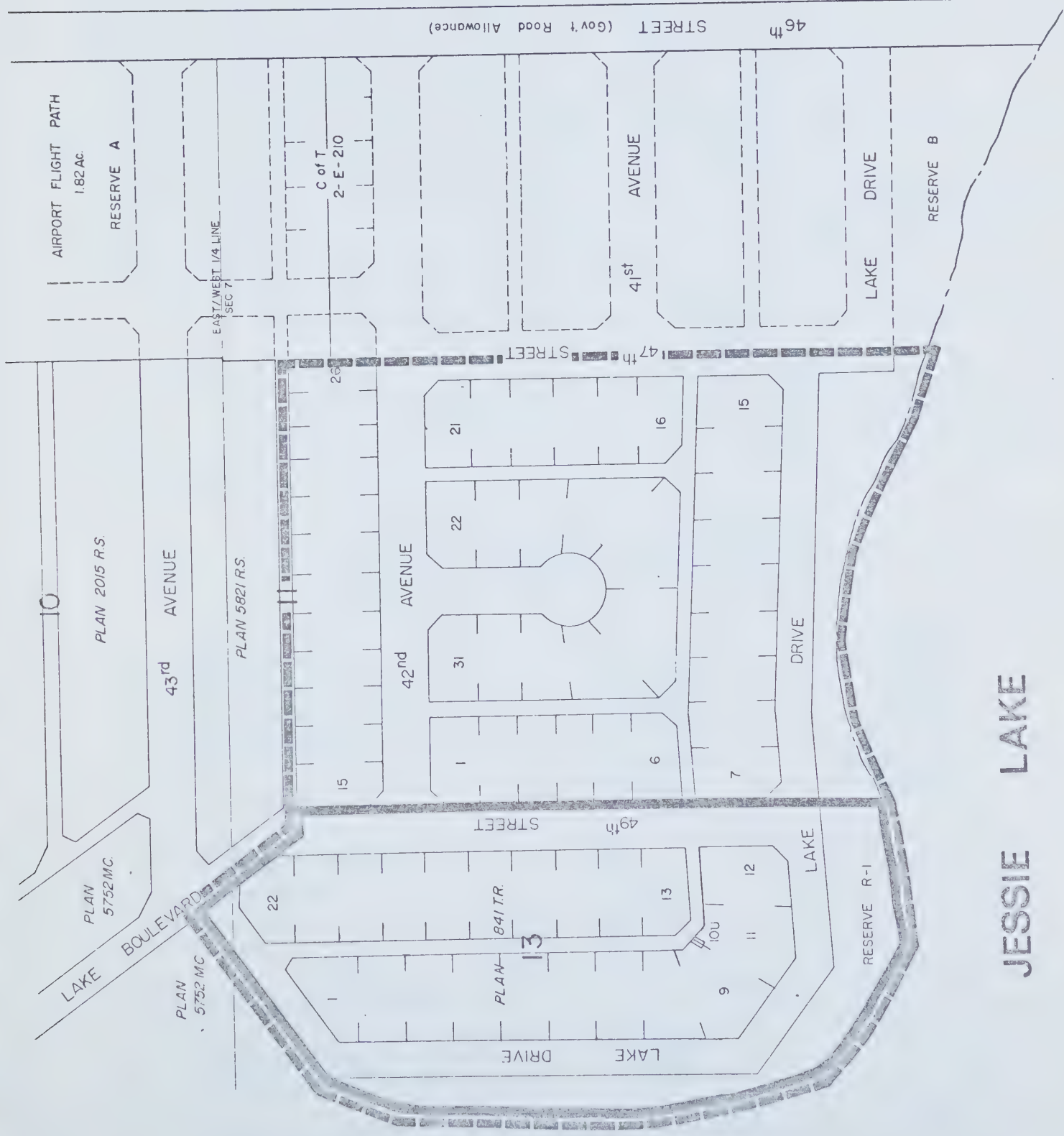
While the far eastern area may eventually support a population of approximately 1,100 (assuming all development is in single family dwellings), development of the area would take place according to a phasing or staging program administered by the town council in conjunction with town planners and the town's engineers. Phasing has not been indicated in the designs, but it would occur within the outline plan according to changing demands and constraints over time.

Cost estimates indicated in the comparative analysis chart are relative estimates only and are not intended to be used as strict guidelines when development

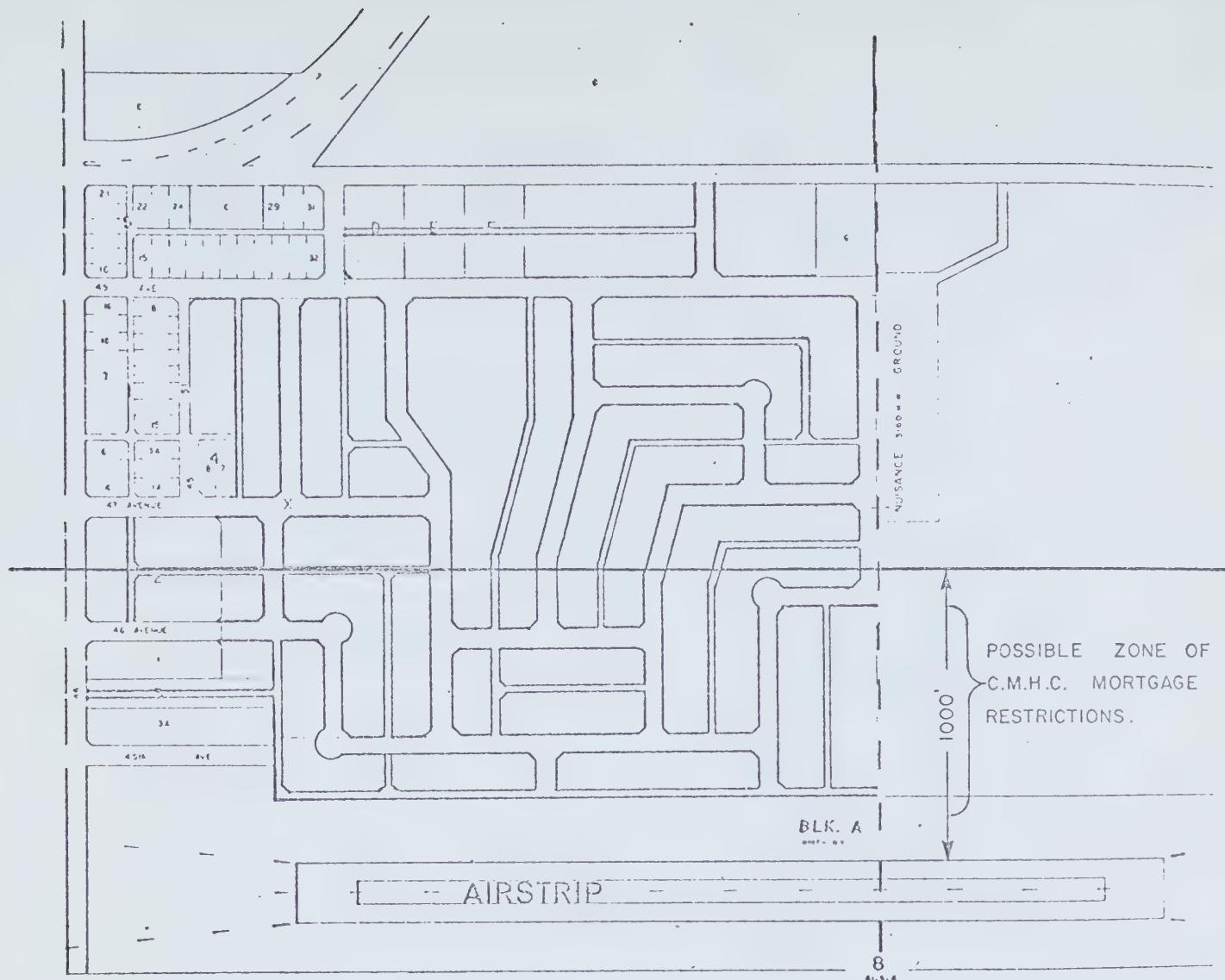
SOUTHEAST BONNYVILLE TENTATIVE PLAN



Outline Plan Area
Area Registered July 197



JESSIE LAKE



FAR EAST BONNYVILLE - OUTLINE PLAN STATISTICAL ANALYSIS FOR ALTERNATIVE 1

Area of Roadways	23.71 acs.	22.10%
Area of Lanes	6.01 acs.	5.60%
Area of Reserve Areas	8.40 acs.	7.83%
Net Developable Area	69.18 acs.	64.47%

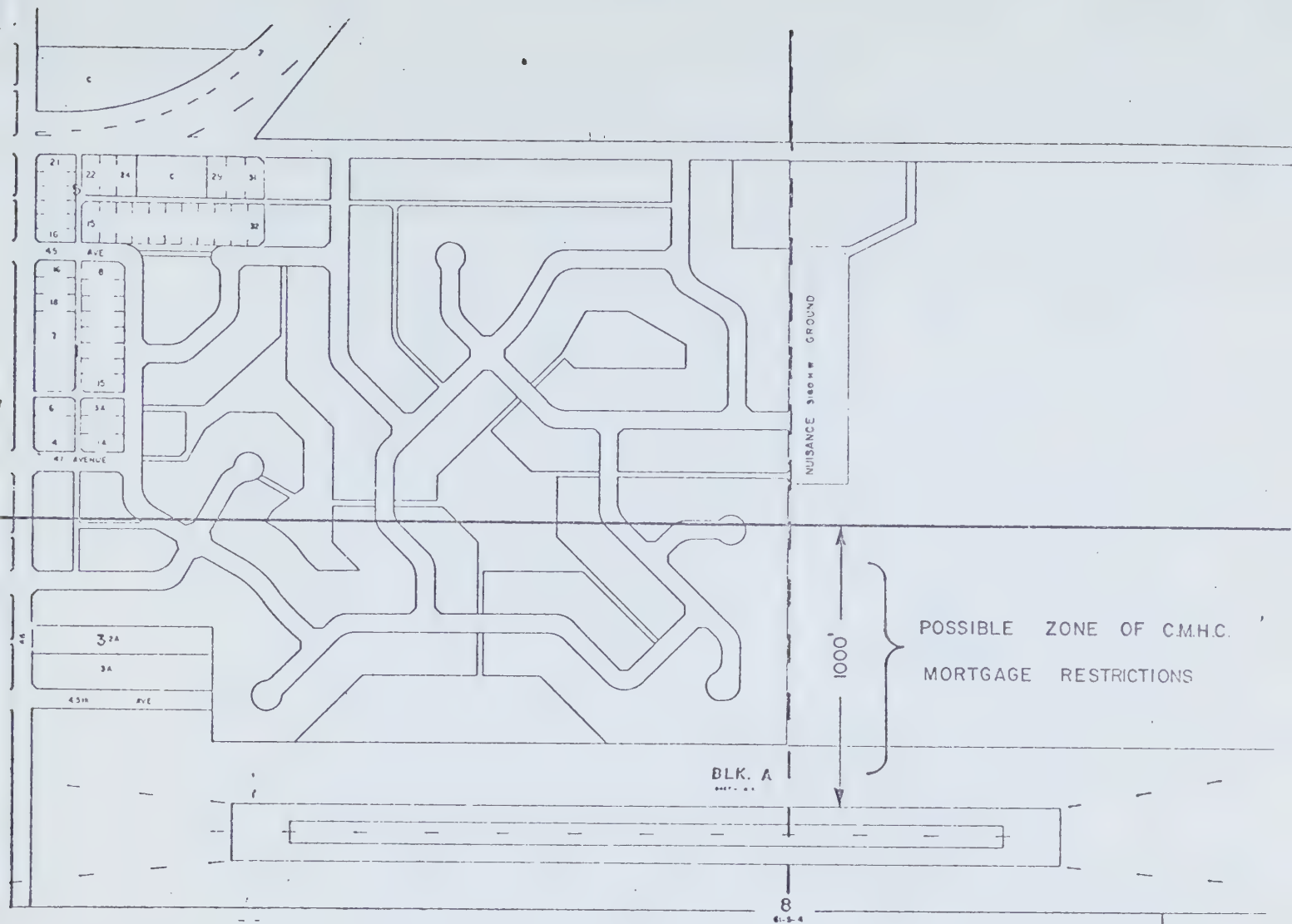
Total Acreage	107.3 acs.	100.00%
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Number of Parcels:	
Single Family	323
Reserves	<u>2</u>
Total	325

Average Lot Dimensions:	138.5' x 67.5'
-------------------------	----------------

Total Area Servicing Cost	\$760,826
Servicing Cost Per Lot	\$ 2,356

Total Population Capacity @ 3.5 persons per dwelling unit	1,131
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FAR EAST BONNYVILLE - OUTLINE PLAN STATISTICAL ANALYSIS FOR ALTERNATIVE 2

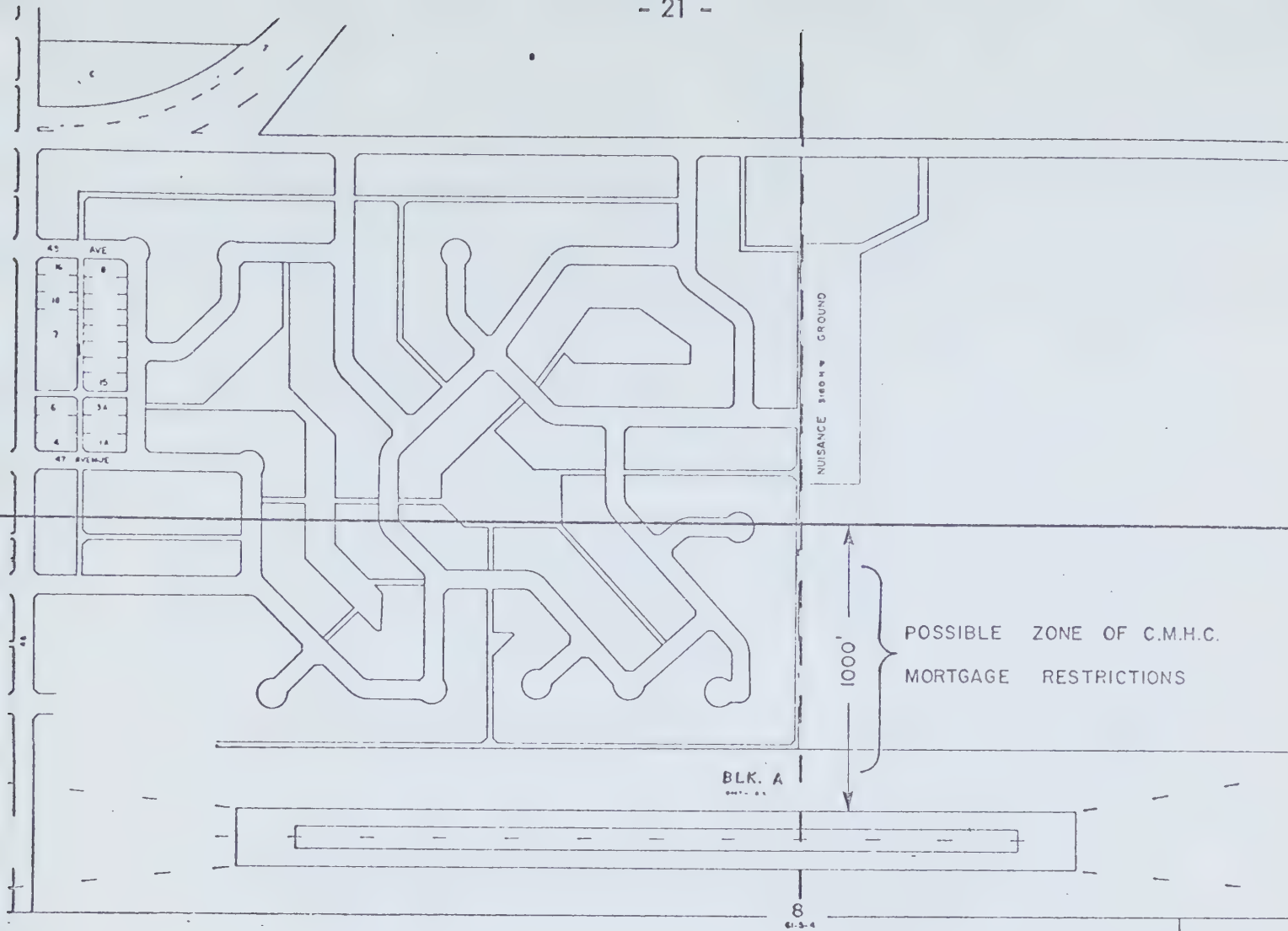
Area of Roadways	18.71 acs.	17.44%
Area of Walkways & Lanes	3.56 acs.	3.32%
Area of Reserve Areas	15.45 acs.	14.40%
Net Developable Area	69.58 acs.	64.85%
Total Acreage	107.3 acs.	100.00%

Number of Parcels:	
Single Family	298
Reserves	8
Total	306

Average Lot Dimensions: 150' x 62.5'

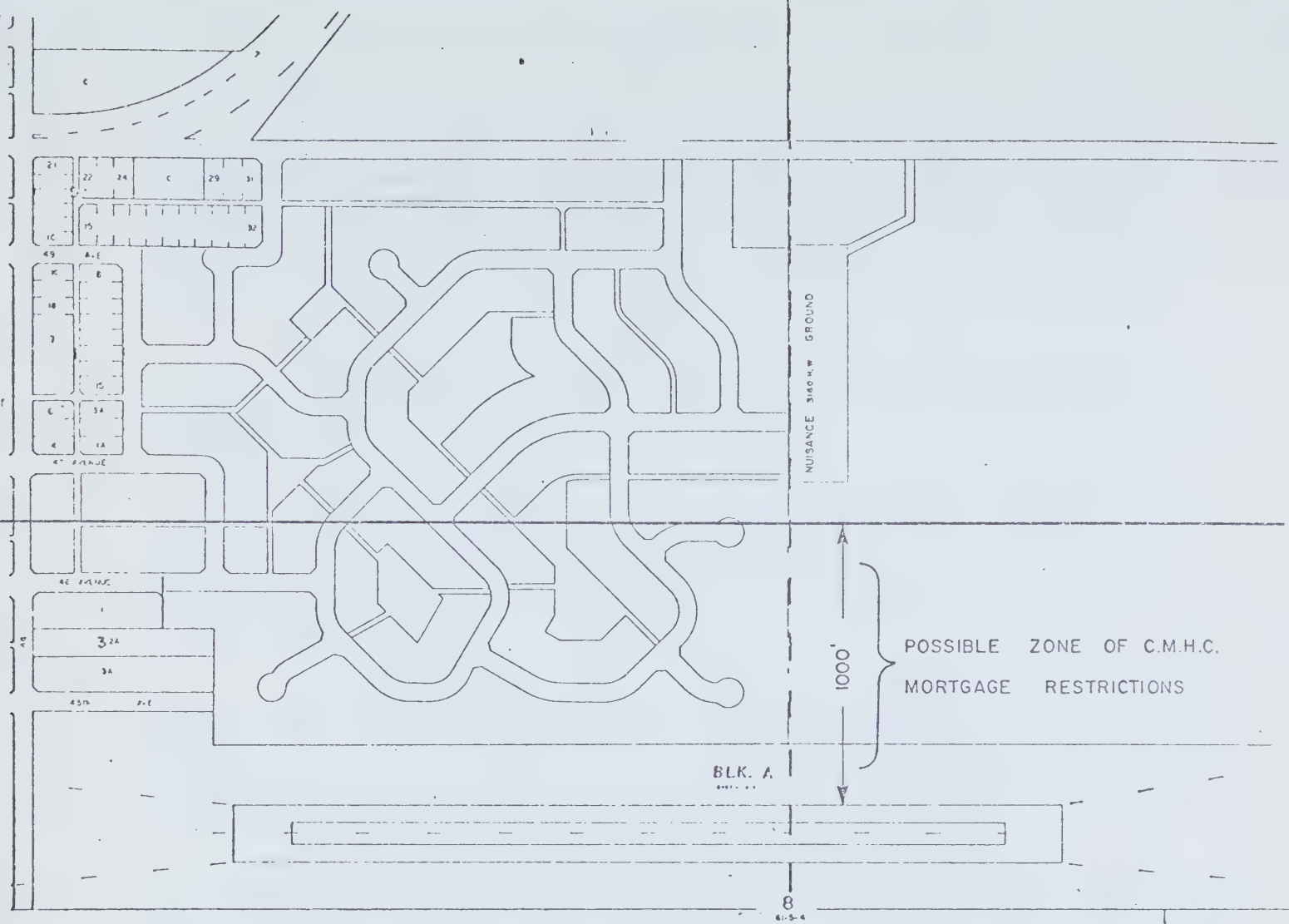
Total Area Servicing Cost	\$510,110
Servicing Cost Per Lot	\$ 1,712

Total Population Capacity @3.5 persons per dwelling unit 1,043



FAR EAST BONNYVILLE - OUTLINE PLAN STATISTICAL ANALYSIS FOR ALTERNATIVE 3

Area of Roadways	19.47 acs.	18.15%
Area of Walkways & Lanes	4.69 acs.	4.37%
Area of Reserve Areas	9.05 acs.	8.43%
Net Developable Area	74.09 acs.	69.05%
Total Acreage	107.3 acs.	100.00%
Number of Parcels:		
Single Family	312	
Reserves	11	
Total	323	
Average Lot Dimensions	150' x 69'	
Total Area Servicing Cost	\$538,258	
Servicing Cost Per Lot	\$ 1,725	
Total Population Capacity @3.5 persons per dwelling unit		1,092



FAR EAST BONNYVILLE - OUTLINE PLAN STATISTICAL ANALYSIS FOR ALTERNATIVE 4

Area of Roadways	19.06 acs.	17.76%
Area of Walkways & Lanes	5.84 acs.	5.44%
Area of Reserve Areas	8.40 acs.	7.83%
Net Developable Area	74.00 acs.	68.97%
Total Acreage	107.3 acs.	100.00%

Number of Parcels:	
Single Family	308
Reserves	12
Total	320

Average Lot Dimensions: 150' x 70'

Total Area Servicing Cost	\$563,983
Servicing Cost Per Lot	\$ 1,831

Total Population Capacity @3.5 persons per dwelling unit 1,078

actually takes place. The costs may vary widely from these estimates depending on the standards required by the town, and the desirability of certain amenities such as sidewalks, paved lanes, etc. It is quite reasonable to assume that certain improvements (such as sidewalks and paved lanes) may not be included in the initial stages of development, but rather, phased over a time period acceptable to the residents.

As shown in the comparative analysis table there are differences between the four alternatives in terms of land use allocation, lot yield, average lot size, servicing cost, population capacity, etc.

Alternatives 2, 3 and 4 are relatively similar in terms of these statistics, while alternative 1, a modification of the grid system, differs significantly from the other three. These three layout systems are characterized by internal reserve areas, a walkway system linking the existing town, and a curvilinear street pattern with cul-de-sacs, few lanes and mostly T intersections.

While the grid or modified grid pattern of subdivision is the most familiar type of layout, this does not qualify it as being the most practical or economical. The comparative analysis table illustrates that the grid system can be improved on in terms of dollars and cents, as discussed below. However, we may also compare the mechanical merits of the two design concepts.

The main advantage of the traditional grid system is its simple organization which allows for a well defined street and house numbering system. The gridiron system also has a slight advantage over the curvilinear system due to the ease of construction of streets and services.

The advantages of the creative design layout system is that it not only is an improvement in economical terms, but that it also provides advantages in terms of the aesthetic environment, convenience, functionality and safety.

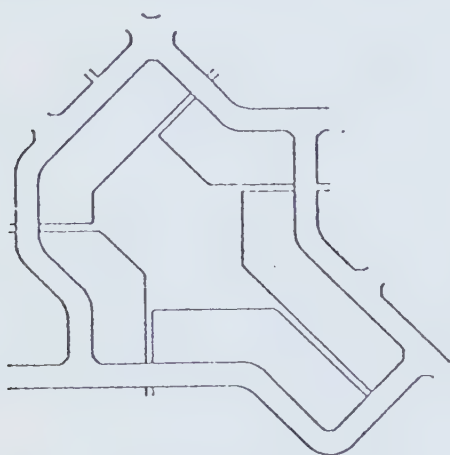
With the creative design layout an attempt has been made to achieve a functional network of major and minor streets, with as few cross intersections and long straight-aways as possible. While the grid system may be convenient in terms of local access, the traffic hazard is high in the system, especially at each of the cross intersections where every street (east-west and north-south) is considered a "through" street.

The curvilinear street pattern is designed to slow down through traffic, while providing an aesthetically pleasing architectural scheme of residential buildings. The monotonous linear arrangement of buildings is supplanted by a variegated arrangement. Furthermore, these curvilinear streets tend to slow down traffic thereby creating a more safe and private residential environment. It is felt that this safety factor far outweighs the inconvenience caused by the difficulty in locating addresses.

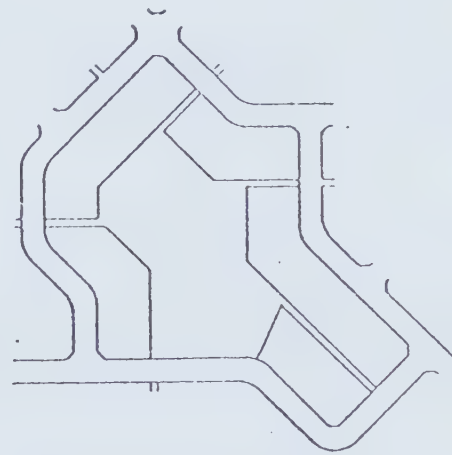
The use of the curvilinear street pattern combined with irregular shaped open space of practical size has resulted in a large number of lots backing onto the open space, providing an extension of outlook for those houses. A system of open spaces and walkways has been designed so that the parks and play areas will be readily accessible to as much of the area as possible. The walkway system (including bicycle paths) has been designed so that the area will be tied closely to the rest of the town.

It is intended that the boundaries of the open space should be flexible to allow for the inclusion of public buildings such as schools and recreation centres. In order to provide street access to such buildings, three or four adjoining residential lots would be converted to open space.

For example, in alternative 2, the southern boundary of the most central open space may be extended to the roadway as follows:



Park Area Without
Public Buildings



Park Boundaries Extended to Include
Public Buildings with Street Access

In the modified grid layout system there are lanes throughout while in the curvilinear design layouts there is a mixture of lanes and walkways. The walkways occur where the right-of-ways meet the central open spaces, the lanes occur where there is no interconnected green space. It is expected that there would be an advantage in selling lots where a prospective buyer is given a choice between a lot backed by a lane or walkway/open space.

Summary of Economic Comparative Analysis

In almost all situations, the curvilinear design system will be more efficient and economical than the grid system in terms of land use. The main difference between the two layout systems is the amount of land given to roadways, with the grid system consistently requiring more space for its roadways. This fact is borne out in the comparison between the four alternatives where the grid system used up 22.1% of the total area in

roadway (or 15,650 linear feet) as compared to an average of 17.8% or 12,800 linear feet for the curvilinear street system.

The advantages of the curvilinear street system are twofold:

1. There is a reduction in the cost of construction of streets, lanes, curbs and gutters, sewer and water lines, as well as reduced maintenance costs.
2. The land saved may be put to better use, such as parkland and residential lots. Besides providing additional revenue at the initial stages of development, this saving in land will provide the town with more real estate tax each year thereafter.

A comparison shows that the three curvilinear layout systems relinquish 69.50 acres, 74.09 acres and 74.00 acres as net developable area, while the modified grid layout gives up 69.18 acres to be developed.

All curvilinear layouts provide as much or more reserve area as the modified grid layout with the former giving up 15.45 acres, 9.05 acres and 8.40 acres respectively, as compared to 8.40 acres for the grid layout.

The single family lot yield shows that the modified grid layout provides more lots than the curvilinear systems, with 323 lots for the modified grid as compared to an average of 306 lots for the 3 curvilinear systems. The lot sizes of the two layout systems differ however, with lots in the grid layout being an average size of 138.5 feet by 67.5 feet, and the average lot in the curvilinear layouts being 150 feet by 67.2 feet.

The analysis of servicing costs favors the curvilinear system, showing that the servicing cost per lot is only \$1756 on the average, as against \$2356 for the grid layout system. Although these cost figures are not to be taken as exact eventual costs, they do provide a valid basis for comparison and point out that the savings in servicing costs may be considerable, such as \$600 per residential lot.

It must be stressed that the designs proposed in the study are only alternative schemes, and are not to be taken as the only or best proposals for the area. Rather, these designs should be taken as an illustration of the planning approach which they represent. The presentation of these alternatives is meant to be a catalyst for discussion regarding changes in the physical form of Bonnyville. The purpose of this exercise is to indicate to the town council that the process of subdivision design is flexible and that they may have a strong say in the ultimate design through a close communicative process.

COMPARATIVE ANALYSIS FOR
FOUR ALTERNATIVE OUTLINE PLANS

AREA PER LAND USE

	ALTERNATIVE 1		ALTERNATIVE 2		ALTERNATIVE 3		ALTERNATIVE 4	
	acres	%	acres	%	acres	%	acres	%
Roadways	23.71	22.10	18.71	17.44	19.47	18.15	19.06	17.76
Walkways & Lanes	6.01	5.60	3.56	3.32	4.69	4.37	5.84	5.44
Reserve Areas	8.40	7.83	15.45	14.40	9.05	8.43	8.40	7.83
Net Developable Area	69.18	64.47	69.58	64.58	74.09	69.05	74.00	68.97
Total	107.30	100.00	107.30	100.00	107.30	100.00	107.30	100.00

NUMBER OF PARCELS

Single Family Lots	323	298	312	308
Reserves	2	8	11	12
Total	325	306	323	320
Average Lot Size	138.5' x 67.5'	150' x 62.5'	150' x 69'	150' x 70'

COST ANALYSIS

Roads	44,747 sq. yd. \$201,360	32,800 sq. yd. \$147,600	34,267 sq. yd. \$154,202	36,213 sq. yd. \$162,960
Lanes	30,200 sq. yd. \$135,900	5,711 sq. yd. \$ 25,699	6,267 sq. yd. \$ 28,202	8,066 sq. yd. \$ 36,297
Sidewalks	32,532 Lin. Ft. \$159,407	25,816 Lin. Ft. \$126,498	27,520 Lin. Ft. \$134,848	28,848 Lin. Ft. \$141,355
Curbs & Gutters	33,032 Lin. Ft. \$112,309	23,492 Lin. Ft. \$ 79,873	25,340 Lin. Ft. \$ 85,156	26,668 Lin. Ft. \$ 90,671
Sewer	14,400 Lin. Ft. \$ 72,000	12,080 Lin. Ft. \$ 60,400	12,930 Lin. Ft. \$ 64,650	12,380 Lin. Ft. \$ 61,900
Water	15,970 Lin. Ft. \$ 79,850	14,020 Lin. Ft. \$ 70,100	14,050 Lin. Ft. \$ 70,200	14,160 Lin. Ft. \$ 70,800
Total Servicing Cost	\$760,826	\$510,110	\$538,258	\$563,983
Servicing Cost Per Lot	\$ 2,356	\$ 1,712	\$ 1,725	\$ 1,831

POPULATION STATISTICS*

Total population	1,131	1,043	1,092	1,078
Gross Density	3.01 du/ac.	2.78 du/ac.	2.91 du/ac.	2.87 du/ac.
Net Residential Density	4.7 du/ac.	4.28 du/ac.	4.21 du/ac.	4.16 du/ac.

* Population analysis assumes 3.5 persons per d.u. (dwelling unit).

E. DOES THE AIRSTRIP INHIBIT RESIDENTIAL OR OTHER DEVELOPMENTS?

There has been no study made on the evaluation of the noise exposure due to aircraft traffic in the vicinity of the Bonnyville airstrip. The calculation of the noise nuisance level (technically termed the Noise Exposure Forecast or N.E.F.) requires information about the types of aircraft using the airstrip, the noise they generate, and the number and timing of take-offs and landings. When an N.E.F. contour map is provided for the Bonnyville airstrip indicating the zones of noise exposure, town planners may then incorporate this information into the design of the residential area adjacent to the airstrip.

When N.E.F. contour maps are not available for an airstrip, C.M.H.C. has the authority to deny financing under the National Housing Act to new housing which is situated within an area extending 5000 feet from each end of the runway and laterally 1000 feet on each side of the centre line of the runway. At the present time there has been no N.E.F. contour mapping done in the vicinity of the Bonnyville airstrip and therefore we cannot effectively delineate the zone in which new housing should be prohibited. Due to this lack of clear guidelines the four alternative outline plans for the area immediately north of the airstrip have not taken into account any restrictions against development which may be imposed by C.M.H.C.'s loan restriction policy.

As has been indicated previously these subdivision designs have been proposed for purposes of stimulating discussion, and the layouts would change according to those realistic constraints which would effect development policy at the time of implementation. One such restraint might well be the limited availability of mortgage money.

Council now faces two decisions with respect to the airstrip and the property to the north of it. The area will be the prime residential development area over the next ten to fifteen years, but development will likely be limited by airport zoning restrictions. The Town has already invested money in the utility infrastructure which will serve this area. The Federal Government is considering upgrading the airstrip at the Town's request. This would involve a substantial investment and would require that the airstrip is "permanent". If the airstrip remains in its present position this might sterilize the land to a width of 1000 feet on either side of the runway.

THE TOWN SHOULD

- 1) DECIDE WHETHER THEY WANT TO CONSIDER AN ALTERNATE SITE FOR THE AIRSTRIP, THUS MAKING USE OF THE UTILITY INVESTMENT, OR LEAVE THE AIRSTRIP IN ITS PRESENT POSITION AND POSSIBLY NOT FULLY UTILIZE THIS INVESTMENT.
- 2) INFORM THE FEDERAL MINISTRY OF TRANSPORT AS TO THEIR PLANS IN ORDER TO INCREASE THE POSSIBILITY OF AIRPORT UPGRADING UNDER OTTAWA AUSPICES.
- 3) STUDY THE OUTLINE PLANS ON PAGES 19-22; DECIDE WHICH TYPE THEY PREFER; REQUEST THE PROVINCIAL PLANNING BRANCH TO PREPARE A SIMILAR ONE WHICH COULD TERMINATE AT THE 1000 FOOT RESTRICTION OR CONTINUE; AND ADOPT IT.

F. TOWARDS A POLICY ON MOBILE HOMES

In June, 1972 there were approximately 21 mobile homes in Bonnyville; 17 in the Sportsmans Park in the northwest, two in Theo's Park on main street, and 2 on parcels in the east end of town. The latter were exceptions made to a general policy of not permitting mobile homes on residential lots.

A recent council decision to allow the creation of a mobile home subdivision in the east end of town marks a change in policy. This was apparently brought about by the demand for such lots. The site chosen is somewhat isolated from the rest of the built-up area. Expansion, however, should eventually take place in this direction, at which time the mobile home subdivision would become part of a larger neighborhood. This would help to prevent any social isolation either felt by the mobile home residents or encouraged by other town citizens.

The success of this first mobile home subdivision will no doubt determine whether or not others are initiated. If a second is necessary the area directly south of this first location may prove ideal, especially since servicing of one side of the street only will prove costly, and it is unlikely there will be a demand for other types of development in this area for at least five years.

The development of mobile home subdivisions should not eliminate the need for a mobile home park. There will still likely be persons who, for one reason or another, do not wish to purchase a lot. Hopefully, however, the competition will encourage the park owners to upgrade their facilities, which are far below standard in terms of recreational facilities, separation of units, and level of paving and appearance.

REGULATIONS, HOPEFULLY TO BE USED THROUGHOUT
THE PROVINCE, ARE CURRENTLY
BEING PREPARED BY THE PROVINCIAL PLANNING BRANCH
THE TOWN SHOULD ADOPT THESE PROPOSED STANDARDS

III. COMMERCIAL AND INDUSTRIAL LAND

B. WHERE IS THE BEST LOCATION FOR SECONDARY COMMERCIAL
AND INDUSTRIAL DEVELOPMENT?

Secondary commercial activities include a wide variety of establishments such as warehouses, agricultural and building suppliers and various manufacturing enterprises. All of these require considerable more space than primary commercial activities and therefore often cannot afford to locate in the prime commercial area. In Bonnyville this type of activity occupies a total of about 41 acres of land in areas mainly surrounding the central business zone, and along the railroad. The Valere Construction operation alone takes up about 6.5 acres.

Bonnyville, like most other towns, is continually in search of new commercial activities and industries to broaden the tax base and to diversify the economy. To be able to compete in this quest, easily serviced and well located land must be available.

THE TOWN SHOULD STRONGLY CONSIDER THE
CREATION OF AN INDUSTRIAL SUBDIVISION

This would provide a surplus of available secondary commercial and industrial land for at least the next decade. It would also likely encourage some secondary commercial uses to move from the central business area to the industrial subdivision, thus making land ideal for primary commercial use available. And hopefully it would contribute to the attraction of new developments to Bonnyville.

A suitable location for this industrial park would be in the east end of town, between the highway and the railroad. The area to the west is already in a similar type of use and highway access could be easily provided. There would be little possibility of a land use conflict, and the town could use the location as a form of advertisement. A possible design is shown on Map 7

This area, however, may not accommodate a relatively large complex.

A MAJOR INDUSTRIAL DEVELOPMENT COULD LOCATE
ON THE NORTH SIDE OF THE RAILROAD

In fact, this area would be ideal, no matter which part of it was chosen - away from residential development; the generated traffic does not have to go through the town centre; and there is the possibility of using the railroad.

BONNYVILLE

SUGGESTED INDUSTRIAL SUBDIVISION DESIGN

IN S.W. of Sec. 17

T. 61 R. 5 W. 4 M.

Scale: 1" = 600'

Aug. 1972



A zone of secondary commercial-industrial type use has developed south of and parallel to the railroad. There is also some room for new development here.

THE PRIMARY CONCERN IN THIS AREA NEAR THE TRACKS
HOWEVER SHOULD BE THE IMPROVEMENT OF
THE GENERAL APPEARANCE

Granted, land use conflicts cannot be eliminated overnight. But the paving of the street, the provision of curb and gutter, proper property demarkation, and the improvement in the level of property maintenance may go far in making this area an integral part of the town.

The provision of adequate and suitable land for commercial and industrial growth will not ensure that such takes place. The town and various community organizations have to carry on a constant campaign to attempt to attract new development.

IV. PUBLIC AND SEMI - PUBLIC LAND

A. RECREATIONAL LAND

Bonnyville's recreational facilities are found in several parts of the town. The major facilities are the arena and curling rink, which together occupy half of a 5.7 acre parcel near the centre of town. The other half of the parcel is a semi-developed and little used park - it has no facilities for active games and is not designed for walkers or sitters. Baseball diamonds and the rodeo groups are found in the east end of town; the former appears to be very poorly maintained. The other facilities are with the schools and include several play areas. The Town owns and maintains the Beaver Valley Ski Club, 9 miles north of Bonnyville, and the residents, of course, have easy access to the numerous facilities around Moose Lake.

Various measures exist to determine the minimum amount of recreational land required by a given population. The most commonly used figure is one acre per one hundred population. Bonnyville has one acre for every 87 persons, which is within acceptable limits, and if the population projections are reasonably accurate the development of the large reserve parcel in the northwest should keep the town within these standards for the next decade.

This theoretical figure should, however, only be used as a guide and as a minimum. In many towns the demand for certain recreation facilities may be much greater, and continued evaluation of local needs is necessary. In Bonnyville, too, the figure may be misleading since many of the facilities and "recreational areas" are either poorly developed or underused. In fact, casual observations would tend to indicate that Bonnyville has less in terms of developed recreation facilities than many other towns of a similar size.

The demand for new and improved facilities, however, has to be locally assessed. In Bonnyville the Town Council, the Recreation Board, and various community and service organizations all contribute to the construction and maintenance of recreation facilities and programs. The major limitation on any expansion is the availability of funds. This, along with the wide range of controlling bodies, makes piecemeal development difficult to avoid. It is important, then, that: -

1. THE VARIOUS INTEREST GROUPS WORK IN HARMONY AND CO-OPERATION TO OBTAIN THE MAXIMUM BENEFIT FROM THE FUNDS AVAILABLE.
2. A LIST OF PRIORITIES ON WHICH AVAILABLE MONIES ARE TO BE SPENT BE ESTABLISHED.

Any attempt at co-operation and a planned recreation development program should take the needs of the M.D. of Bonnyville into consideration, and the M.D. should be invited to participate in such planning.

In establishing priorities, the proportion of the population who use the facility and the amount of time it is actually in use should be the major considerations. Facilities which benefit few and are used sparingly are an unfair burden to the taxpayer. A "prestige facility" should not be encouraged at the expense of more popular ones.

Well developed playgrounds appear to be lacking. The ideal location for such is in the midst of a residential area with a considerable number of children, eg. southeast Bonnyville.

A PLAYGROUND OR TOTLOT SHOULD BE INCLUDED IN ANY NEW SUBDIVISION

Such facilities require only a small amount of land, perhaps one residential lot, and low maintenance expenditure. If a number of benches are included they provide an ideal area for the mixing of various age groups.

Most of the Jesse Lake shoreline has been taken by the Town as reserve land. The possibility of developing this area for recreational purposes has been discussed locally. Although the idea is commendable, several factors appear to dictate against it at this time:

1. the lake is shallow and was apparently once used as a garbage dump - Water Resources Division would have to be consulted;
2. it may not be justifiable to spend large sums of money with Moose Lake so close at hand.

During the next five years

THE LAKESHORE SHOULD BE LANDSCAPED AND POSSIBLY A FENCED PLAYGROUND DEVELOPED

This could be done in conjunction with the development of an "overnight" tent and trailer area which Council currently wishes to develop.

B. EDUCATIONAL LAND

Educational facilities in Bonnyville are located on four different parcels. The public system operates an elementary school and a junior high school in the southeast part of town. The separate board operate a combined elementary and junior high school in the northeast area. The two jurisdictions operate an integrated regional high school, also in the southeast.

In both systems enrollment figures have remained relatively stable for the past five years and are likely to continue to do so, with slight increases foreseen at the junior and senior levels. Contributing factors include the offsetting of town population growth by rural decline, the rising average age of the townsfolk, and the declining birth rate on the one hand and on the other, closure of rural schools.

The only possibility of new construction in the next ten years is a junior high school in the separate system.

While some students are required to walk a considerable distance to school, the school sites are central to a fair proportion of the school population. As long as residential expansion is towards the east and southeast this will continue to be the case, at least for the public schools. This should be remembered when considering the direction of growth. The separate school is unfortunately in a location which will become more distant, virtually regardless of which way expansion takes place. This is a factor of some importance since about 55% of its students live in the town.

Since many students do walk to school the route they follow should be considered. In the southeast, the area of most children, proposed expansion, and long blocks, there are foot paths or north-south lanes in some blocks, but not in others. This inconsistency may well inconvenience persons who reside near potential routes.

THE NEED FOR FOOTPATHS SHOULD BE
ASSESSED IN EACH NEW SUBDIVISION

and/or

STUDENTS SHOULD BE ENCOURAGED TO USE SIDEWALKS

C. PUBLIC UTILITIES

Many of the points which have been brought up in the preceding pages relate in one way or another, to the town's public utility system. The major public utilities are briefly analyzed below.

(i) Water Treatment and Distribution System

Water required for municipal purposes for the Town of Bonnyville is pumped from Moose Lake, some three miles west of town. The water is pumped (1) from the lake into a 3.75 million gallon earth reservoir. (2) From the reservoir through a slow sand filter and then chlorinated, (3) pumped into a 200,000 gallon concrete ground storage reservoir on the west side of town, and (4) it is pumped through the distribution system and into a 40,000 gallon elevated storage tank. The system is shown on Map 8. There are a number of 4" lines, mainly in the older districts. These should all be eventually replaced with 6" or 8" lines in order to give better pressure and a more consistent supply to these areas.

The report, Town of Bonnyville - Water Supply and Distribution System, prepared by W. J. Franci and Associates Consulting Engineering Ltd. and their follow up letters describe the problems with the system. The town should follow their recommendations in order to improve the water system.

(ii) Sanitary Sewage System

The sewer network that serves the town is shown on Map 9. The system drains by gravity to a pumphouse on the edge of Jesse Lake, near the hospital. It is possible to extend the system to serve new development in the planning period, but the capacity of the pumps at the pumphouse may have to be increased.

The sewage is treated at the lagoon site across Jesse Lake in four anaerobic pits and 2 aerobic holding ponds. The lagoon facilities are relatively new and should serve for the population expected in the planning period.

(iii) Storm Sewers

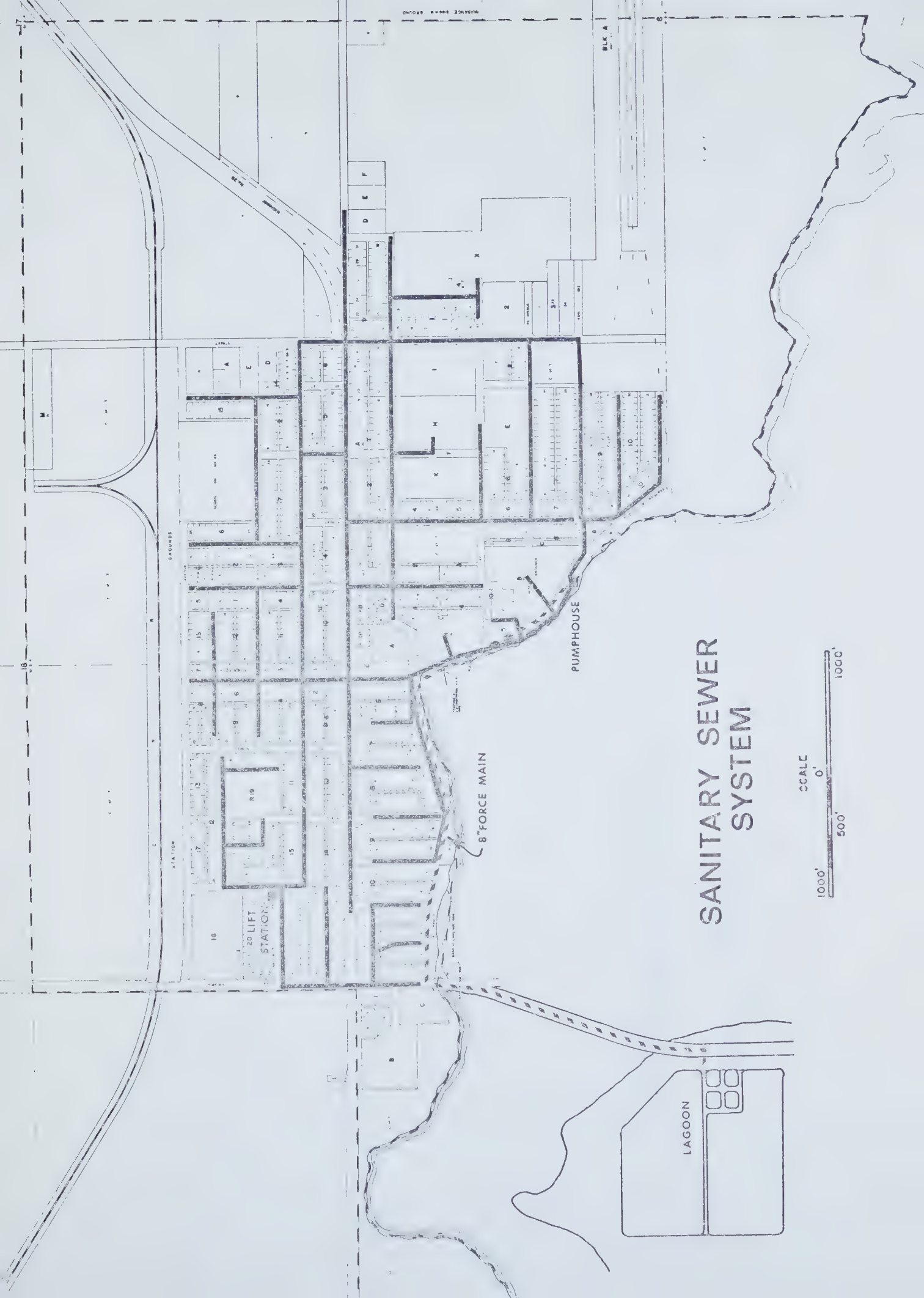
The system of storm sewers is shown on Map 10. At present, the system is limited and serves mainly the downtown area. Run-off in the remainder of the town runs to Jesse Lake on the surface.

The Town should increase the storm drainage system in any areas which, in the opinion of their engineers, have drainage problems. This should be done in conjunction with a curb and gutter and paving program.

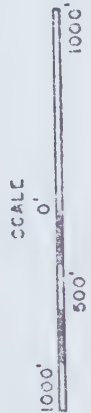


WATER SUPPLY AND DISTRIBUTION SYSTEM





SANITARY SEWER SYSTEM



PUMPHOUSE

8" FORCE MAIN

LAGOON

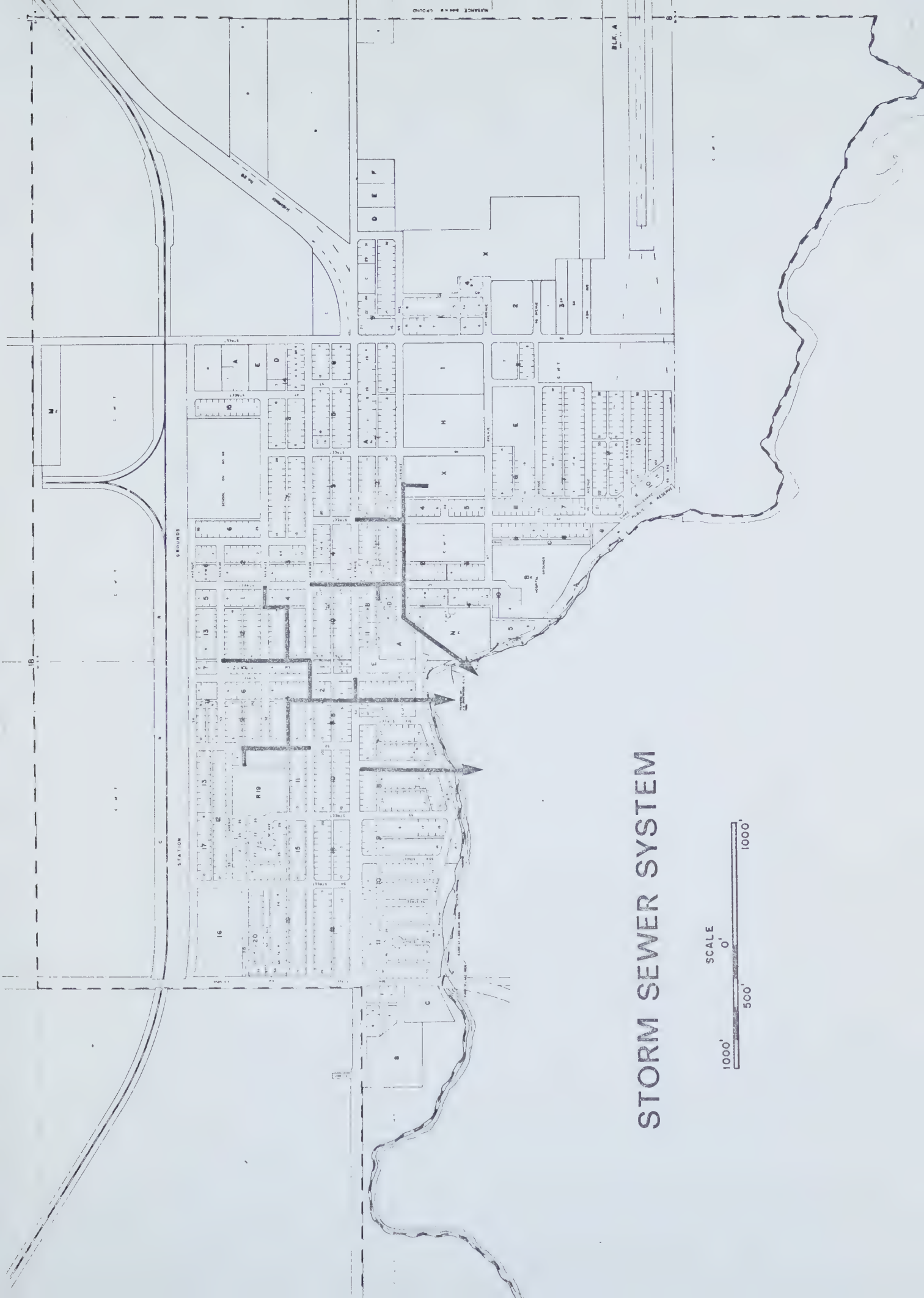
20 LIFT STATION

STATION

STATION

BLK A

WASTEWATER TREATMENT PLANT



STORM SEWER SYSTEM



V. GENERAL RECOMMENDATIONS

A. TOWN COUNCIL, PLANNING, AND THE FUTURE

This report has outlined the growth trends for the Town of Bonnyville and has paid particular attention to the possible repercussions of such growth on the land use pattern. Bonnyville is not experiencing, nor is it likely to experience, rapid growth similar to such centres as Fort McMurray or Grande Prairie. Urban growth and urban activities are however, continuing to concentrate in fewer centres, and Bonnyville will certainly be affected by this trend.

The resulting growth, however constant, must be planned for. In an attempt to provide improved environmental conditions for Bonnyville residents, this report has made a number of recommendations. The task of putting these into practice rests with the town council. It is they who must decide what is "best" for the people of Bonnyville and what the town can or cannot afford. The town is not in an unfavorable financial position.* Nonetheless, in order to prevent mill rate increases, spending should be closely watched.

TO AID IN DOING THIS COUNCIL SHOULD DRAW UP A LIST OF PRIORITIES FOR THE NEXT FIVE YEARS

This would be most effective if it resulted in a capital spending program. Such would require inputs from a variety of groups including the Town's engineers. It is the opinion of the Provincial Planning Branch that Bonnyville does not require a general plan at this time.

IF COUNCIL WISHES TO OBTAIN MAXIMUM BENEFIT FROM THIS DOCUMENT IT SHOULD, AFTER REVIEW, MAKE THE REPORT WIDELY AVAILABLE AND INVITE SUBMISSIONS WITH RESPECT TO ALL OR PART OF IT

These could be made by individuals, businesses or community groups and hopefully would provide council and the Provincial Planning Branch with a good indication of the general feeling on planning matters. The policy stage of the report would then have a community-wide base.

* see Appendix C.

B. FUTURE LAND USE AND ZONING

Map 11 is a generalized land use map for 1981. The town, of course, will not look exactly like this in ten years time, but such a map does provide a guide to the desirable dominant land use in each area, and to the direction of growth. In conjunction with this map, a detailed zoning by-law is needed.

THE TOWN SHOULD REQUEST THE PROVINCIAL
PLANNING BRANCH TO PREPARE
A NEW ZONING BY-LAW IN CONJUNCTION
WITH THE FINAL REPORT AND POLICY STATEMENT

The last by-law was prepared in 1967 and is somewhat out-of-date. The new by-law should be prepared on the basis of the planning report and the reaction, by council and the townsfolk at large, to it. This would give real meaning to the recommended public planning discussions.

The new zoning by-law should attempt to provide council with a reasonable degree of flexibility. This can be achieved by keeping the number of "zones" to a minimum, and expanding the list of permitted and conditional uses in each.

IS THE COMPLETE SEPARATION OF USES A NECESSARY OF
ADVISABLE GOAL IN BONNYVILLE?

This is an example of questions which have to be answered before a representative by-law can be drawn up. There are many others. For example:

- Is our concept of zoning giving us what we want?
- Do we need several classes of residential zoning?
- Do we want to separate high income and low income people?
- What does it do to our children's social outlook not to mention our own?
- Is the appearance of the town important?
- Would we like some mixture of apartments, mobile homes and single family dwellings?
- Do we want public housing and/or mobile homes in our neighborhood, or should these types, and the people who live in them, be isolated from the rest of town?
- Are we willing to spend our tax money on upgrading substandard areas, or public housing?

FUTURE LAND USE

c. 1981

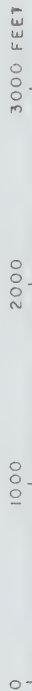
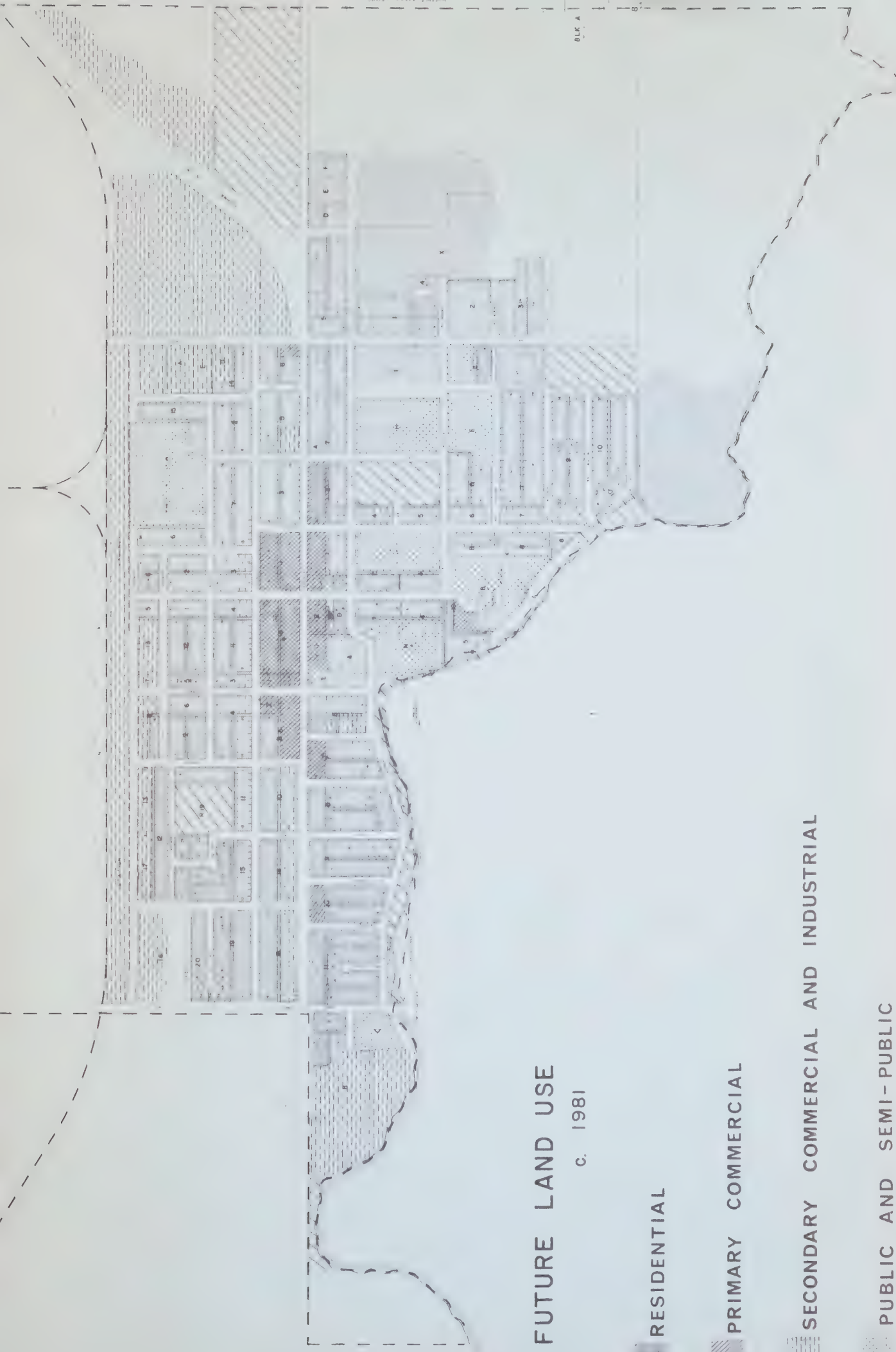
RESIDENTIAL

PRIMARY COMMERCIAL

SECONDARY COMMERCIAL AND INDUSTRIAL

PUBLIC AND SEMI-PUBLIC

RECREATION AND OPEN SPACE



If council wants to discuss the answers to such questions, but finds public discussions impractical or not popular or difficult to set up

A TOWN PLANNING COMMITTEE SHOULD BE ORGANIZED.

This committee could be made up of one or two council members, and four or five citizens at large, with an attempt to secure a cross-section of the population. Their original task would be to comment on the matters raised in the planning report and to advise council on the new zoning by-law. Subsequently, the committee would be able to serve as a source of information to citizens and a channel for the expression of local opinion to Council on matters of town planning and development. The Provincial Planning Branch would be available to assist in the establishment of the committee, and to provide advice whenever necessary.

APPENDIX A

DETERMINING FUTURE RESIDENTIAL REQUIREMENTS

Low Projection

- Assumptions:
- (1) the 1971 net figure of 3.5 persons per household will remain constant;
 - (2) the accuracy of the population projections.

	<u>1971-1976</u>	<u>1976-1981</u>
Projected Population Increase	340	368
Mean Persons Per Household	3.5	3.5
Number of Dwelling Units Required	97	105

High Projection

Assumption: that 1966-71 trends continue.

Number of Residential Starts 1966-1971 = 129

Population Increase 1966-1971 = 350

i.e. 1 start for every 2.71 persons (population gain)

	<u>1971-1976</u>	<u>1976-1981</u>
Projected Population Increase	340	368
Projected Number of Dwellings Required	125	136

The need for two methods was dictated by the fact that if the first method, the more commonly used one, is tested for the period 1966-1971 for which the results are known, the predicted number of new dwelling units required (92) is far less than the actual number of units constructed (129).

APPENDIX B

DETERMINING FUTURE PRIMARY COMMERCIAL NEEDS

The amount of primary commercial land is, in large part, determined by the number of people the town serves.

$$\begin{array}{rclcl} \text{i.e.} & \text{Town population} & + & \text{primary trading area population} & \\ & 2587 & + & 3700 & = 6287 \end{array}$$

It is assumed that consumer behaviour will remain about the same as it is now.

There are now 13.6 acres of primary commercial land or 1 acre for every 462 persons who have a strong possibility of using Bonnyville as their major trading centre. If the town's population grows by 708 persons and the trading area population remains constant, then the amount of new primary commercial land required will be:

$$\frac{708}{1277} = 1.53 \text{ acres}$$

APPENDIX C

FINANCIAL SITUATION

Communication with the Municipal Inspection Branch indicated the following trends in Bonnyville:

- the net cash assets, the equity position, has shown an improving trend since 1969 when a deficit occurred, but is by no means healthy;
- although the current operations have not experienced a deficit since 1969, profits from the water works are going towards general revenue, a practice which apparently should be avoided;
- taxes received have remained constant over the last several years.

	<u>1969</u>	<u>1970</u>	<u>1971</u>
debt debenture principle	\$512,000	480,000	731,000
per capita debt	\$204.70	193.70	282.56
assessment base	\$3,300,000	3,490,000	3,797,000
mill rate	69	69	71





- A. RESIDENTIAL**
- 1. SINGLE FAMILY AND TWO-FAMILY DWELLINGS (lower density)
 - 2. MULTI-FAMILY DWELLINGS (higher density)
 - 3. MOBILE HOMES
- B. COMMERCIAL**
- 1. RETAIL AND SERVICE TRADE
Including - retail stores, business offices, personal services, medical offices
 - 2. WHOLESALE AND STORAGE
Including - lumber yards, grain elevators
- C. INDUSTRIAL**
- Including - seed cleaning plant, creamery
- D. PUBLIC AND QUASI-PUBLIC**
- Including - government and civic buildings, churches, schools, community halls, senior citizens home
- E. PARKS AND RECREATION**
- Including - tennis court, curling rink
- F. AGRICULTURAL LAND**

BONNYVILLE
LAND USE 1972

